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| 10/040,930 | 10/24/2001 | Hisanori Kawakami | 9319S-000285 | 3796 |

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EXAMINER

CARIASO, ALAN B

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 06/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,930

Applicant(s)

KAWAKAMI ET AL.

Examiner

Alan Cariaso

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 5-10 is/are rejected.
- 7) ☒ Claim(s) 2 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by PIENKA et al (US 6,052,196).
3. PIENKA discloses an illumination device (fig.1) comprising: a light source (12); a light guide (16') receiving light (18) from the light source (12) at a light-receiving face (15) thereof and emitting the light (18) from a light-emitting face (face adjacent pane 10; col.2, lines 41-42) of the light guide (16'), wherein a face (substantially horizontal face where first internal reflection occurs) opposite the light-receiving face (15) of the light guide is formed as an inclined plane so that a face (substantially vertical face where last internal reflection occurs) opposite the light-emitting face projects beyond the light-emitting face at a side (at the bend of the light guide 16') of the inclined plane (substantially horizontal plane).

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4. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by GOTO et al (US 6,273,577).

5. GOTO discloses an illumination device comprising: a light source (3-fig.7); a light guide (1) receiving light (fig.1) from the light source (3) at a light-receiving face (12) thereof and emitting the light from a light-emitting face (14) of the light guide (1), wherein a face (10) opposite the light-receiving face (12) of the light guide is formed as an inclined plane (10-fig.2B) so that a face (13) opposite the light-emitting face (14) projects beyond the light-emitting face (14) at a side of the inclined plane (10-fig.2B); wherein a reflective member (5-fig.3) is provided on the face (13) opposite the light-emitting face (14).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over GOTO et al (US 6,273,577) in view of YOKOYAMA (US 5,134,549) and SUZAWA (US 4,487,481).

8. GOTO discloses applicant's claimed invention including a diffusion plate (6-fig.3) on the light-emitting face (14). However GOTO does not disclose diffusion patterns with

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pattern density increasing from the inclined plane toward a middle part of the light guide, the pattern density expression $S0 < S1 < S2$ and distance expression $L1 > L2$.

9. In regards to claims 5-7 and 10, YOKOYAMA teaches a light guide (2-figs.5-8) in the same field of endeavor having a diffusion pattern (6-fig.8) on a major face of the light guide, the diffusion pattern (6) having a density increase from a plane (5) toward a middle part of the light guide (fig.8) for the purpose of correcting the defect of non-uniform light luminance distribution at the second reflecting surface (5) or distal end (5b-fig.5) providing a nearly uniform luminance distribution over the entire range (col.2, lines 18-45). The density diffusion pattern of fig.8 of YOKOYAMA also meets the expressions $S0 < S1 < S2$ and $L1 > L2$, where the greatest diffusion density designated by numeral "6" in fig.8 represents density $S2$ being successively greater than the densities right of "6" representing density $S1$ and left of "6" representing density $S0$ for the purpose stated above. Since the greatest density "6" of YOKOYAMA is off center of the plate towards the right or distal end, it meets the expression $L1 > L2$. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the light diffusing light guide device of GOTO et al to include the type of diffusion pattern of increasing density away from the inclined or distal end as taught by YOKOYAMA in order to provide substantially uniform light luminance distribution over the entire range.

10. In regards to claims 9 and 10, GOTO discloses applicant's invention substantially as claimed including a liquid crystal panel (9-fig.4A), except a pair of substrates sandwiching liquid crystal. SUZAWA teaches a liquid crystal display device in the same

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field of endeavor including a pair of substrates (2,3-fig.1) sandwiching liquid crystal (7) to define a liquid crystal panel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD-light guide device of GOTO et al to include the type liquid crystal panel as taught by SUZAWA in order to contain liquid crystal between operative substrates to define an operative visual display to be illuminated.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over GOTO et al (US 6,273,577) in view of YOKOYAMA (US 5,134,549) and SUZAWA (US 4,487,481) as applied to claims 5-7, 9 and 10 above, and further in view of KENMOCHI (US 5,128,842).

12. GOTO modified by YOKOYAMA and SUZAWA above discloses applicant's invention except an LED light source or light emitting diode. KENMOCHI teaches a light guide device in the same field of endeavor that includes light emitting diodes (4) for the purpose providing an elongate light source at an edge of the light guide (1) to illuminate a key-display (5).

13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the light guide display device of GOTO et al to include plural LEDs as taught by KENMOCHI in order to provide an elongate light source at one edge of the light guide to illuminate the display, further motivated by LEDs using less energy.

Allowable Subject Matter

14. Claims 2 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claims 11 and 12 are allowed.

Response to Arguments

16. Applicant's amendment with arguments filed April 7, 2003, with respect to the rejection(s) of claim(s) 1-10 under at least MITSUBISHI (GB 2,165,631) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of GOTO et al (US 6,273,577).

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. YAGI et al (US 4,017,155) show a backlighting LCD assembly that includes an LCD panel having one substrate (1) greater in length (fig.1) the opposing substrate (2).


18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (703) 308-1952. The examiner can normally be reached on M-F (9:00-5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.


Alan Cariaso
Primary Examiner
Art Unit 2875

AC
June 9, 2003